

Remarks

Reconsideration of this Application is respectfully requested. Claims 1-13, 15-27, and 29-41 are pending in the application, with 1, 15, and 29 being the independent claims. Based on the following remarks, Applicants respectfully request the Examiner reconsider all outstanding objections and rejections and that they be withdrawn.

Rejections under 35 U.S.C. § 103

On page two of the Office Action, claims 1, 9-13, 15, 23-27, 29, and 37-41 stand rejected under 35 U.S.C. § 103(a) as being unpatentable over US Patent No. 6,199,088 to Weng *et al* (herein "Weng") in view of US Patent No. 5,181,183 to Miyazaki *et al* (herein "Miyazaki"). Applicants respectfully traverse this rejection and respectfully request this rejection be removed and these claims be passed to allowance.

First, Applicants respectfully submit that neither Weng nor Miyazaki, alone or in combination, teach or suggest all elements of pending claims 1, 9-13, 15, 23-27, 29, and 37-41. On page three, the Office Action admits that "Weng et al. do not disclose the multiply unit output data path includes one or more components to separately select the output of the arithmetic multiplier, the output of the binary polynomial multiplier or the output of the permutation logic to form a result" as recited in independent claims 1, 15, and 29. Thus, Weng alone does not teach or suggest all elements of independent claims 1, 15, and 29.

Miyazaki does not overcome this deficiency of Weng. Miyazaki does not teach or suggest either a binary polynomial multiplier or an arithmetic multiplier, much less a binary polynomial multiplier with a separately selectable output as recited in independent claims 1, 15, and 29. On page three, the Office Action alleges that elements 303 and

305, which are input to switch 309 in FIG. 1 of Miyazaki, are a binary polynomial multiplier with a separately selectable output. However, neither of elements 303 and 305 are a binary polynomial multiplier with a separately selectable output, but instead are only registers. (Miyazaki, col. 5, ln. 67; col. 6, ln. 30-31). Thus, Miyazaki does not overcome this deficiency of Weng.

In addition, Miyazaki does not teach or suggest an arithmetic multiplier, much less an arithmetic multiplier with a separately selectable output as recited in independent claims 1, 15, and 29. On page three, the Office Action alleges that elements 303 and 305, which are input to switch 309 in FIG. 1 of Miyazaki, are an arithmetic multiplier with a separately selectable output. However, neither of the elements 303 and 305 are an arithmetic multiplier with a separately selectable output, but instead are only registers. (Miyazaki, col. 5, ln. 67; col. 6, ln. 30-31). Thus, Miyazaki does not overcome this deficiency of Weng.

Furthermore, as discussed above, Weng does not teach or suggest a similar connection, combination, and function of the elements recited in independent claims 1, 15, and 29. Specifically, Weng does not teach or suggest separately selectable outputs of an arithmetic multiplier, a binary polynomial multiplier, and permutation logic. Miyazaki does not overcome this deficiency of Weng, because Miyazaki does not teach switching outputs of either an arithmetic multiplier or a binary polynomial multiplier. Thus, Miyazaki does not overcome this deficiency of Weng.

Therefore, because neither Weng nor Miyazaki, alone or in combination, teach or suggest all of the recited claim limitations of independent claims 1, 15, and 29 for at least the reasons herein, a *prima facie* case of obviousness has not been established.

Accordingly, Applicants respectfully request this rejection be removed and that these claims be passed to allowance.

Second, no suggestion or motivation to combine the references to achieve the Applicants' invention is present in Weng or Miyazaki, because Miyazaki is non-analogous art and the Office Action impermissibly relies on hindsight reconstruction. The Office Action does not rely on or point to an explicit suggestion or motivation in the references to combine the references. Instead, the Office Action makes the following broad conclusory statement:

Therefore, it would have been obvious to a person having ordinary skill in the art at the time the invention is made to add a component in a multiply unit to separately select the input of the arithmetic multiplier, the output of the binary polynomial multiplier or the output of the permutation logic to form a result as seen in Miyazaki's invention into Weng et al's invention because it would enable to efficiently outputting selected result for used in subsequence [sic]. (Office Action, pp. 3-4).

Thus, it appears the Office Action is implying that the suggestion or motivation to combine the references is implicit in Weng and Miyazaki.

Applicants submit that no suggestion or motivation to combine the references is implicitly present in Weng or Miyazaki. Applicants' claimed invention, Weng, and Miyazaki address different fields of endeavor and different problems. Weng addresses specific problems associated with dividing elements in a Galois Field within the technological field of magnetic disk error correction codes. (Weng, col. 1, ln. 1-40). Miyazaki addresses specific problems associated with performing a discrete cosine transform within the technological field of moving picture signals. (Miyazaki col. 1, ln. 7-14). Weng and Miyazaki are directed only to solving specific problems in their respective technologies. The Applicants' invention addresses, for example, the field of

cryptography and problem of excessive circuit size. Thus, Weng and Miyazaki are directed to different types of technology than Applicants' claimed invention.

Based on the foregoing, Applicants submit that the nature of the problems being solved by Weng and Miyazaki would not have suggested or motivated a person skilled in the Applicants' art to combine Weng with Miyazaki to achieve Applicants' claimed invention. Thus, no suggestion or motivation to combine the references is implicitly present in Weng or Miyazaki.

Furthermore, Applicants assert that the conclusory statement in the Office Action cited above does not provide evidence of a suggestion or motivation to combine or modify the non-analogous art of Weng and Miyazaki in a manner that establishes a *prima facie* case of obviousness. Impermissible hindsight was used to arrive at that conclusion. (*See* MPEP § 2141).

Thus, no suggestion or motivation to combine the references to achieve Applicants' invention is present in Weng or Miyazaki. Therefore, for at least the reasons herein, a *prima facie* case of obviousness has not been established. Accordingly, Applicants respectfully request this rejection be removed and independent claims 1, 15, and 29 be passed to allowance.

Furthermore, dependent claims 9-13, 23-27, and 37-41, which depend upon their respective independent claims 1, 15, and 29, are thus allowable for at least being dependent from an allowable independent claim, in addition to their own respective features. Accordingly, Applicants respectfully request this rejection be reconsidered, removed, and that these claims be passed to allowance.

On page six of the Office Action, dependent claims 2-6, 16-20, and 30-34 stand rejected under 35 U.S.C. § 103(a) as being unpatentable over Weng in view of Miyazaki and further in view of US Patent No. 6,711,602 to Bhandal *et al* (herein "Bhandal"). Applicants respectfully traverse this rejection and respectfully request this rejection be removed and this claim be passed to allowance.

Dependent claims 2-6, 16-20, and 30-34, which depend upon their respective independent claims 1, 15, and 29, are allowable for at least being dependent from an allowable independent claim, in addition to their own respective features. Accordingly, Applicants respectfully request this rejection be removed and that these claims be passed to allowance.

On page seven of the Office Action, dependent claims 7-8, 21-22, and 35-36 stand rejected under 35 U.S.C. § 103(a) as being unpatentable over Weng in view of Miyazaki in further view of Bhandal in further view of US Patent No. 4,538,239 to Magar *et al* (herein "Magar"). Applicants respectfully traverse this rejection and respectfully request this rejection be removed and this claim be passed to allowance.

Dependent claims 7-8, 21-22, and 35-36, which depend upon their respective independent claims 1, 15, and 29, are allowable for at least being dependent from an allowable independent claim, in addition to their own respective features. Accordingly, Applicants respectfully request this rejection be removed and that these claims be passed to allowance.

Conclusion

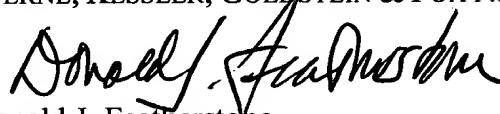
All of the stated grounds of objection and rejection have been properly traversed, accommodated, or rendered moot. Applicants therefore respectfully request that the

Examiner reconsider all presently outstanding objections and rejections and that they be withdrawn. Applicants believe that a full and complete reply has been made to the outstanding Office Action and, as such, the present application is in condition for allowance. If the Examiner believes, for any reason, that personal communication will expedite prosecution of this application, the Examiner is invited to telephone the undersigned at the number provided.

Prompt and favorable consideration of this Amendment and Reply is respectfully requested.

Respectfully submitted,

STERNE, KESSLER, GOLDSTEIN & FOX P.L.L.C.



Donald J. Featherstone
Attorney for Applicants
Registration No. 33,876

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1100 New York Avenue, N.W.
Washington, D.C. 20005-3934
(202) 371-2600
487014v1